

**US Army Corps
of Engineers**
Jacksonville District

Superfund Five-Year Review Report

Escambia Treating Company, Inc.
Pensacola, Escambia County, Florida

Prepared for
U.S. Environmental Protection Agency, Region IV
September, 2002

Five-Year Review Report

First Five-Year Review Report for Escambia Treating Company Site Pensacola (Escambia County), Florida

September, 2002

Prepared by:

US Army Corps of Engineers
Jacksonville (FL) District

Approved by:

Richard D. Green
Director, Waste Management Division
EPA Region IV

Date

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Responsiveness Summary

Photographs

List of Acronyms

ARAR	Applicable, or Relevant and Appropriate Requirements
bls	Below Land Surface
B(a)P	Benzo(a)pyrene
CATE	Citizens Against Toxic Exposure
CERCLA	The Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System
CESAM	designation for the Mobile District, US Army Corps of Engineers
CFR	Code of Federal Regulations
COC	Contaminant of Concern
EPA	the US Environmental Protection Agency
ESD	Explanation of Significant Differences
ETC	Escambia Treating Company
FAC	Florida Administrative Code
FDEP	Florida Department of Environmental Protection
FDER	Florida Department of Environmental Regulation
FS	Feasibility Study
FYR	Five-Year Review
HDPE	High Density Polyethylene
HRS	Hazard Ranking System
IC	Institutional Control
LTM	Long Term Monitoring
LUC	Land Use Controls
MCL	Maximum Contaminant Level
mil	1/1000 inch
NCP	National Contingency Plan
OU	Operable Unit
PAH	Polycyclic Aromatic Hydrocarbon
PCP	Pentachlorophenol
ppb	parts per billion
RA	Remedial Action
RAO	Remedial Action Objective
RCRA	Resource, Conservation, and Recovery Act
RFA	RCRA Facility Assessment
RI	Remedial Investigation
RI/FS	Remedial Investigation/Feasibility Study
ROD	Record of Decision
RPM	Remedial Project Manager
SARA	The Superfund Amendments and Authorization Act of 1986
ug/L	micrograms per Liter
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency

Executive Summary

The interim remedy for the Escambia Treating Company Site is (1) permanent relocation of residents from neighborhoods adjacent to the site; (2) demolition of the vacated housing; and (3) institutional controls to prevent reuse of the site for residential purposes. The permanent relocations are essentially complete for those neighborhoods identified in the Record of Decision. However, the Florida Department of Environment is questioning whether all affected families were identified in the ROD. Demolition of most properties could begin in the near future, and real estate title issues on the remaining properties are being resolved. Placement of the permanent institutional controls can take place once clear title has been attained on all properties and the properties are transferred to the local jurisdictions.

The trigger for this Five-Year Review is initiation of the interim remedy, i.e., EPA initiated action on May 12, 1997 by signing a memorandum with the US Army Corps of Engineers (USACE) authorizing the Corps to begin acquisition of the affected properties. One Explanation of Significant Differences was issued to provide maintenance of the contaminated soil stockpile created during a 1991-1992 emergency response action. The required maintenance is being performed under a contract issued by USACE. Permanent remedies for the contaminated soil and groundwater have not been established. There are concerns about the long-term viability of the plastic (HDPE) cover over the contaminated soil stockpile, but it is expected that maintenance and limited repairs could maintain the cover functional for a least three to five years, if necessary.

Five- Year Review Summary Form

SITE IDENTIFICATION		
Site Name (from WasteLAN): Escambia Wood - Pensacola		
EPA ID (from WasteLAN): FLD008168346		
Region: IV	State: FL	City/County: Pensacola/Escambia
SITE STATUS		
NPL Status: Final		
Remediation Status (choose all that apply): In progress Under Construction Operating Complete		
Multiple OUs? Yes No	Construction Completion Date: NA	
Has site been put into reuse? Yes No		
REVIEW STATUS		
Lead Agency: EPA State Tribe Other Federal Agency _____		
Author Name: Frank Zepka		
Author Title: Environmental Engineer	Author Affiliation: US Army Corps of Engineers, Jacksonville District	
Review Period: 6/10/2002 to 8/30/2002		
Date(s) of Site Inspection: 7/29/2002		
Type of Review: Post-SARA Pre-Sara NPL-Removal Only Non-NPL Remedial Action Site NPL State/Tribe Lead Regional Discretion		
Review Number: 1 (first) 2 (second) 3 (third) Other (specify)		
Triggering Action: Actual RA On-site Construction Actual RA Start Date Construction Completion Previous Five-Year Review Report Other (specify)		
Triggering Action Date (from WasteLAN): 5/12/1997		
Due Date: (five years after triggering action date): 5/12/2002		

Escambia Treating Company, Inc. Pensacola, Florida Superfund Five-Year Review Report

I. Introduction

The purpose of a five-year review is to determine whether the remedy at a site is protective of human health and the environment. The methods, findings, and conclusions of reviews are documented in Five-Year Review reports. In addition, Five-Year Review reports identify any issues found during the review and make recommendations to address them.

The Five-Year Review requirement applies to all remedial actions selected under Section 121 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA, or the Superfund Act). Section 121 of CERCLA, as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), and Section 300.430 (f) (4) (ii) of the National Oil and Hazardous Substance Pollution Contingency Plan (NCP), require that periodic reviews be conducted at least every five years for sites where hazardous substances, pollutants or contaminants remain at the site above levels that allow for unlimited use and unrestricted exposure following the completion of all remedial actions. In June 2001, EPA's Office of Emergency and Remedial Response published the Comprehensive Five-Year Review Guidance, which provides the recommended structure for this review. The guidance is referenced as publication number EPA 540-R-01-007, or OWSER No. 9355.7-03B-P, and is also available on the EPA web site at <http://www.epa.gov/superfund/pubs.htm>

During June, July, and August 2002, the U.S. Army Corps of Engineers, Jacksonville District (USACE), on behalf of the U.S. Environmental Protection Agency, Region 4 (EPA), conducted a Five-Year Review of the interim remedy implemented at Escambia Treating Company Superfund Site (hereafter referred to as Escambia Treating, ETC, or the site), located in the City of Pensacola, Escambia County, Florida. Note that Escambia Treating is the common, familiar name for the site, but that the site is tracked in EPA's CERCLIS database as Escambia Wood-Pensacola.

EPA has identified two major work elements, or operable units, at the site. Operable Unit One (OU1) addresses the contaminant source and control measures. OU2 is separately addressing groundwater contamination. This Five-Year Review will evaluate the protectiveness of only the **Interim Remedial Action** (i.e., relocation of an estimated 358 households) for OU1 established in the Record of Decision signed on February 12, 1997, as amended by the Explanation of Significant Differences (ESD) dated April 30, 1998. Once final remedial actions for OU1 and OU2 have been

selected and documented in a Record of Decision, those actions would also be subject to the Five-Year Review requirement.

This is the first Five-Year Review for the Escambia Treating site. The trigger for this statutory review is the passage of 5 years since initiation of the first remedial action. On May 12, 1997 EPA initiated the interim remedial action by signing a memorandum with the US Army Corps of Engineers authorizing the Corps to begin acquisition of the affected housing units.

Status of Final Remedies: In March 2001, EPA presented the first draft Proposed Plan for the OU1 final remedy to the Florida Department of Environmental Protection (FDEP); the agencies are currently working to resolve several key issues. Specifically, dioxin cleanup levels prescribed by the Florida Department of Environment (FDEP) are more stringent than those used by EPA, and FDEP is seeking further investigation to determine whether site-related contaminants have migrated farther than identified during the Remedial Investigation / Feasibility Study (RI/FS). At Operable Unit Two, groundwater contamination is currently being evaluated in a separate RI/FS.

Local Information Repository. For Superfund Sites, EPA normally establishes a local Information Repository in or near the community where the site is located. The purpose of the repository is to provide concerned citizens with convenient access to various documents, including studies and reports, plans, Records of Decision, etc., which are the basis for actions taken at the site. For the Escambia Treating Company Superfund Site, the Information Repository had been designated as the West Florida Regional Library, 200 West Gregory Street, Pensacola, FL 32501 (850-435-1763). Copies of this report are to be placed in the Information Repository and in the site files maintained at the EPA Region IV offices in Atlanta.

Note: Throughout this report, information has been extracted, summarized, and/or edited from the following ETC site documents: EPA Record of Decision (ROD) dated February 12, 1997, the Explanation of Significant Differences April 30, 1998, and other documents identified in Section VI, Five-Year Review Process.

II. Site Chronology

See Chronology Table at end of document.

III. Background

Land Use

The Escambia Treating Company (ETC) site is an abandoned wood preserving facility located at 3910 North Palafox Street in the City of Pensacola, Florida. ETC began operations on the 26-acre site in 1942, on land that had previously been used for farming. During the operational era, the area around the ETC site was characterized

as mixed industrial and residential, being bordered on the north by residential neighborhoods interspersed with light industry, by a railroad switch yard to the east, on the south by a small industrial park and former concrete plant, and by Palafox Street to the west. The west side of North Palafox Street is generally commercial and light industrial properties, interspersed with a few single family residences.

Physical Characteristics and Resource Use

Western Florida is located in the physiographic division known as the Coastal Plain Province. Pensacola is located in a subdivision of this province known as the Coastal Lowlands. A distinctive feature of the Coastal Lowlands is the step-like Pleistocene marine terraces, which descend from the north, southward to the coastline of the Gulf of Mexico. One such terrace is located in downtown Pensacola, and across a distance of a few city blocks, the elevation changes by as much as 50 feet. The ETC site is located within the plane of this terrace at naturally occurring elevations ranging from 85 to 92 feet above mean sea level.

The Coastal Lowlands beneath the ETC site typically consist of unconsolidated marine sedimentary deposits of the Pleistocene and Holocene age that dip gently toward the coast. The unconsolidated deposits are generally composed of sand with varying proportions of silt, clay and gravel which overlie consolidated limestone. The aquifer of local importance for this area is known as the Sand and Gravel aquifer and is the primary groundwater source for the public potable water supply. Within the Sand and Gravel aquifer, three zones of varying hydraulic character have been identified. The uppermost or shallow zone is unconfined and has been measured on site at depths ranging from 42 to 44 feet below the land surface (bls). Measurements of the shallow zone indicate that flow in this part of the Sand and Gravel Aquifer would be to the Southeast, toward Bayou Texar. A second or intermediate zone has been reported at approximated depths of 95-115 ft bls, and the third or deep zone at roughly 170-190 ft bls. This deep zone is the most productive of the Sand and Gravel Aquifer and is the one tapped for public water supply down gradient of the ETC site. For further information on these topics, the reader is referred to the Remedial Investigation/Feasibility Study (RI/FS) for OU1.

Contaminant History

From 1942 until 1963 coal-tar creosote was the primary preservative applied to the wood being treated. Beginning in 1963, ETC also used pentachlorophenol or PCP, dissolved in no. 6 diesel fuel as a preservative. From 1970 until the plant closed in 1982, the PCP mixture was the only preservative used at the plant. In the early years of operation, contaminated waste water and runoff from the treatment area were directed to an unlined earthen pit at the northeast end of the site. Beginning in the mid- to late-1950s, two impoundments made of concrete and treated wood were used to manage the process waste water. Chemicals recovered from the impoundments were returned to the plant for reuse. Water from the impoundments was managed by

either of two methods: recycled for use in the wood treatment system, or discharged to the Pensacola sanitary sewer system.

Regulatory History and Initial Response

The ETC site history relative to hazardous waste regulation followed passage of the federal Resource, Conservation, and Recovery Act (RCRA) in 1976, and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) in 1980. ETC submitted a Notification of Hazardous Waste Activity (CERCLA Form 103C) to EPA in 1980. In November 1980, ETC submitted a RCRA Part A Permit Application to the Florida Department of Environmental Regulation (FDER) for a permit to operate a hazardous waste storage facility for wood preservative waste (RCRA waste code K001). FDER changed to the Florida Department of Environmental Protection (FDEP) in 1993. At the time ETC ceased operation in October 1982, three surface impoundments on site were known to contain the K001 sludge and waste water which required permitting and closure.

After the plant closed, Escambia Treating was required by the State of Florida to submit groundwater monitoring and closure plans, and perform statistical analysis on groundwater samples. In March of 1985, ETC submitted a revised closure plan for the impoundments, and in September removed the sludge from the three surface impoundments. That sludge was disposed at a licensed hazardous waste facility. Subsequently, in 1986, FDER identified a separate backfilled impoundment as an unpermitted disposal facility. In 1988, ETC removed the wooden side walls of two impoundments for proper disposal.

From April 1982 through May 1992, EPA and/or FDER collected and analyzed soil and groundwater samples on five occasions. In the same time frame, the regulatory agencies cited the owner for various violations including groundwater contamination and inadequate financial assurance under RCRA. In June of 1990, EPA conducted a RCRA Facility Assessment (RFA) at the ETC property. The following year, ETC filed for bankruptcy and abandoned the site. In October 1991 EPA began a removal action, excavating all materials of concern at the site to control the contaminant source and to determine the waste quantity to be managed in future phases. By October 1992, an estimated 225,000 cubic yards of contaminated soil had been excavated and stockpiled on site under an impermeable cover.

The Escambia Treating Company site was proposed for the National Priorities List on August 23, 1994 and listed on the NPL on December 16, 1994.

Summary of Basis for Taking Action

In July 1995, EPA conducted an extensive sampling effort to determine whether soil in the adjacent residential areas had been affected by contamination from the ETC site. Residential areas to the north and south were divided into equally-sized grids

(approximately 225 ft x 225 ft), and composite samples were collected and analyzed for a wide range of chemicals. (In composite samples, small amounts of soil from several locations are combined to form a single sample which provides an average value for contaminants within that grid). In addition to the composite samples, to address community concerns, EPA authorized the collection and analysis of over 40 grab samples from single points selected by the technical advisor to a community group known as the Citizens Against Toxic Exposure.

The sampling results identified several chemical contaminants at elevated levels, notably dioxin, benzo(a)pyrene, arsenic, and lead. Dioxin is part of a family of chemicals known as chlorinated dibenzo-p-dioxins; chemicals from this family are often expressed in terms of equivalent units of 2,3,7,8-TCDD, which is one of the most toxic members of the family. Dioxin is a common contaminant in commercial grade pentachlorophenol used for wood preservation. Benzo(a)pyrene, or B(a)P, is from a family of chemicals known as polycyclic aromatic hydrocarbons (PAHs), some of which are found in fuels, tars, and creosote, or may be formed by the incomplete combustion of petroleum products. In a preliminary analysis of the sampling results, EPA determined that B(a)P and dioxin were present at some locations in the Rosewood Terrace development at concentrations that exceeded a 1×10^{-4} risk level (an excess lifetime cancer risk of 1×10^{-4} means that an individual has an additional 1 in 10,000 chance of developing cancer over an estimated 70 year lifetime as a result of site-related exposure). While arsenic was detected at levels above background concentrations, it did not contribute to an excess human health risk. Lead was identified in the soil of one off-site property at elevated levels; however, that was at a fenced, non-residential property where children would not be exposed to the lead.

IV. Remedial Actions

In June of 1995, EPA nominated the ETC site for the National Relocation Evaluation Pilot Program, and in April 1996, EPA issued a Proposed Plan for an interim remedial action to relocate 66 families from the Rosewood Terrace subdivision. Based on a comparison of soil sampling results to Preliminary Remediation Goals (PRGs), EPA determined that approximately 22 families should be relocated based on the increased cancer risk posed by direct exposure to contaminants in their yards. The remaining 45 families were proposed for relocation because of a combination of factors, including potential exposure to contamination during the excavation of nearby properties, the physical hazards arising from the operation of heavy equipment and construction traffic, and the possible need for additional space when future cleanup operations are undertaken.

Public comment on the Proposed Plan indicated that it did not go far enough to protect other residents in nearby properties, and in August 1996, EPA issued an addendum to the Proposed Plan which would increase the number of families to be relocated to 101 households. Ultimately, on February 12, 1997, EPA issued the Record of Decision to relocate all (approximately 358) families in the four subdivisions to the north and south

of the ETC site. On behalf of EPA, the Mobile District of the US Army Corps of Engineers (USACE) executed the relocation program by buying the affected properties, identifying other comparable properties available for purchase by the displaced residents, and providing financial assistance including a purchase supplement and moving cost reimbursement, in accordance with the federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, public law 91-646. Relocation of residents from the Escambia Arms Apartments was also facilitated with assistance from the City of Pensacola, Escambia County, and the federal Department of Housing and Urban Development.

The first families relocated under the Pilot Project were relocated in 1997, and the last families relocated from the north side, from the Escambia Arms Apartments, were moved in December 2001. As of August 1, 2002, three properties remain occupied in the Goulding subdivision on the south side of the site. One of those properties is still occupied while the resident's new home is being built. In two other homes, the owners have resisted the move, and EPA has determined that it is not essential to relocate those residents for health and safety reasons; accordingly, attempts to purchase those properties have been stopped, and will not be pursued further unless requested by the owners/occupants. A total of seven other properties in the north and south side neighborhoods have been vacated but title has not yet been received by the federal government. Condemnation proceedings have been initiated to resolve the associated title issues.

The second interim action required by the ROD is the subsequent demolition of the vacated residences. It is anticipated that clear title to the seven remaining properties could be received by January 2003. Depending on the availability of funding, EPA could initiate demolition when title actions are completed. Escambia County has expressed interest in an early demolition of those residences north of Hickory Street, pending agreement on a possible cost-sharing agreement (see Section VIII, Issues, for further discussion).

The last interim action required by the ROD is Land Use Controls (LUCs) to restrict future use of the property to commercial or industrial activities; future residential use of the sites would be prohibited. A redevelopment plan for the area projects that the site and vacated properties would be developed into a Commerce Park, and allowable actions in the area would be consistent with commercial or light industrial activity. Permanence of those restrictions would be effected through zoning changes and deed restrictions when title to the properties is transferred from the federal government to the local jurisdictions (both the city and county governments have jurisdiction in different parts of the site).

Subsequent to the ROD, on April 30, 1998, the EPA issued an Explanation of Significant Differences which added maintenance of the soil stockpile to the interim remedial action. The purpose of this maintenance is to insure the integrity of cover above the contaminated soils, thus preventing direct human exposure to the

contaminants or migration of the contaminated soils from the site. The maintenance requirements of the interim remedy have been implemented through a contract issued by the USACE. This contract provides for the inspection, maintenance and repair of the cover and perimeter fence, site vegetation control, and repair to drainage systems on an as-required basis. To date, maintenance of the stockpile and cover have been effective; concerns about the long-term integrity of the cover are discussed further in Section VIII, Issues.

V. Progress Since Last Review

This is the initial Five-Year Review Report.

VI. Five-Year Review Process

This Five-Year Review was conducted by the Jacksonville District of the US Army Corps of Engineers. The process ran from June through August, 2002, and included document reviews, interviews and meetings with personnel involved with site activities, and a site inspection. Primary author of the report is Frank Zepka.

Documents reviewed included the Record of Decision dated February 12, 1997, the Explanation of Significant Differences dated April 30, 1998, ROD Summaries available from the EPA web site, the June 1998 Remedial Investigation / Feasibility Study for Source Soils (OU1), Proposed Plan Fact Sheets and correspondence file as maintained in the Administrative Record (and in the Information Repository located at the West Florida Regional Library in Pensacola), the Scope of Work for Inspection and Maintenance of the Soil Stockpile, periodic inspection reports, and summary information for the Agrico Chemical Company Superfund site.

Numerous personnel were interviewed as part of the Five-Year Review process. The personnel were asked about their involvement with the site, if they had any concerns about the protectiveness of the remedy, or their concerns in general about the status, process, and activities at the Superfund site. Comments from the interviews shaped the review process or often led to other contacts to be interviewed. The following personnel were interviewed by telephone:

- Mr. Ken Lucas, EPA Region IV Remedial Project Manager for the Escambia Treating Company and Agrico Chemical Company Superfund sites
- Ms. Maryann Ustick, Assistant City Manager, City of Pensacola
- Ms. Margaret Williams, President, Citizens Against Toxic Exposure (CATE)
- Dr. Peter Shuba, Brownfields Coordinator, Escambia County Community Redevelopment Coordinator
- Mr. Rick Harter, Environmental Coordinator, City of Pensacola

- Ms. Leona Miles, Remedial Project Manager, Florida Dept of Environmental Protection (Tallahassee)
- Mr. Michael Kennedy, Florida Dept of Environmental Protection, Northwest District Office (Pensacola)
- Mr. Tommy Lightcap, Project Manager, US Army Corps of Engineers, Mobile District (CESAM)
- Mr. Joseph Givhan, Project Manager for Real Estate, CESAM
- Mr. Ed Herman, Technical Manager, Engineering Division, CESAM
- Mr. James Flournoy, President, Architectural Specialties Trading Company
- Mr. Fred Stroud, EPA's On-Scene Coordinator of 1991-92 Removal Action
- Ms. Pat Hubbard, City of Pensacola Housing Department
- Ms. Joan Fisk, EPA Headquarters, Office of Superfund

On July 29, 2002, a meeting was held in Pensacola prior to a scheduled site inspection. Discussions focused on current status and site conditions. The following personnel were in attendance:

- Dr. Peter Shuba, Escambia County Community Redevelopment Agency
- Mr. Rick Harter, City of Pensacola
- Mr. Joseph Givhan, Mobile District, Army Corps of Engineers (CESAM)
- Mr. Rufus Byrd, CESAM
- Ms. Sharee Kinard, CESAM
- Ms. Anita Redish, NDT, Inc.
- Mr. Frank Zepka, Jacksonville District, Army Corps of Engineers

Following the meeting, Mr. Byrd escorted Dr. Shuba, Messrs Harter and Zepka, and Ms. Redish to the ETC site; focus of the visit was the soil stockpile and security fencing along the perimeter of the site. With the onset of heavy rain, the site visit was terminated. Mr. Zepka returned that afternoon to conduct the site inspection.

At the request of Ms. Maryann Ustick, Pensacola Assistant City Manager, Mr. Zepka contacted Mr. James Flournoy, President of Architectural Specialties Trading Company. Subsequently, a meeting was held on July 29, 2002 to address business concerns arising from the proximity of Architectural Specialties Trading Company and Pensacola Shipyard Marine Complex to the ETC Superfund Site. In addition to Messrs Flournoy and Zepka, the meeting was attended by Mr. J. Rocky De Simone, General Manager, and Mr. Chris Long, President of Pensacola Shipyard Marine Complex. The concerns raised during this meeting are summarized in Section VIII, Issues, point no. 1 under Relocation of Families.

VII. Technical Assessment

EPA guidance for Five-Year Reviews requires that three questions be asked and answered about the remedy. The questions will be presented below, first with respect to the relocation of families, and second, with respect to the maintenance of the soil stockpile.

Relocation of Families:

Question A: Is the remedy functioning as intended by the decision documents?

The Record of Decision (ROD) dated February 12, 1997 selected permanent relocation of residents as the interim remedial action. The four housing sub-divisions included in the Proposed Plan were those believed to be affected based on sampling results and knowledge of relevant site conditions (e.g., drainage patterns). In December, 2001 the last of the affected residents in the north end of the ETC site (i.e., Rosewood Terrace and Oak Park subdivisions, and the Escambia Arms Apartments) were permanently relocated.

As of August 1, 2002, only three residences in the Goulding subdivision at the south end of the ETC site were still occupied. One of those properties is still occupied while the resident's new home is being built; agreement on the sale of this property to the Government has been reached. In two other homes, the owners have resisted the move, and EPA has determined that it is not essential to relocate those residents for health and safety reasons; accordingly, attempts to purchase those properties have been stopped, and will not be pursued further unless requested by the owners/occupants.

Note that the analysis presented in the April 1996 Proposed Plan (leading up to the ROD) indicated that only 22 families in the Rosewood Terrace subdivision were proposed for relocation based solely on potential human health risks arising from exposure to site-related contaminants. After the Proposed Plan had undergone public review and comment, EPA concluded in the ROD that the residents of all subdivisions, including the Goulding area, would be relocated based on a combination of eight factors such as (1) adverse impacts to all residents from fear due to uncertain health effects, loss of property values, and psychological stress, (2) physical safety consideration for nearby residents, especially children, due to truck traffic and heavy equipment operation when the permanent remedy for the soil stockpile is implemented, and (3) greater flexibility in selection of the final remedy, thus reducing overall costs. The ROD (in Section 9.0) emphasized that "The residents living in the area will be relocated because of the cumulative impacts of the following factors, not because of any single factor".

Recently, in response to FDEP concerns, two soil samples have been collected in the residential area along Clarinda Lane west of Palafox Street. The results indicate that dioxin levels are elevated compared to FDEP residential standards (but not elevated

when compared to EPA's standards). Because of this, FDEP agrees that the selected remedy is essentially complete for those residential areas identified in the ROD, but stops short of calling it successful because all families exposed to elevated contaminant levels may not have been identified in the ROD. At this time, it is not clear that the dioxin found is related to the ETC site, and the limited sampling cannot accurately represent the overall extent of contamination. FDEP wants EPA to conduct further sampling to assure that all off-site contamination is known and addressed.

The need for additional off-site delineation and the dioxin cleanup levels that would apply are issues on which EPA and FDEP have yet to reach agreement in the draft Proposed Plan for the final soil-contamination remedy. Although several residents remain in the Goulding subdivision, direct contaminant exposure was not the driving consideration for their relocation. In summary, the relocation of those residents designated in the ROD is essentially complete, the pathway for their potential exposure to site contaminants no longer exists, and the primary remedy prescribed in the ROD has functioned as intended.

Question B: Are the exposure assumptions, toxicity data, cleanup levels, and remedial action objectives (RAOs) used at the time of the remedy still valid?

The permanent relocation of residents designated in the ROD has removed the potential pathway for their exposure to contaminated surface soil; by doing so, the RAO for this site has been attained. Because this was an interim remedial action rather than a permanent remedy, the Record of Decision did not establish cleanup levels to be achieved. Final cleanup levels for the site will be established in the ROD for the permanent remedy, and the latest values for toxicity/human health risk will be used at that time.

Question C: Has any other information come to light that could call into question the protectiveness of the remedy? The interim remedial action, permanent relocation of designated nearby residents, is nearly complete. As discussed in the response to Question A, above, limited sampling in the residential area west of Palafox Street has identified dioxin-contaminated soil, and the relevance of that information is being considered by EPA and FDEP.

Also, businesses adjacent to the affected housing in the Rosewood Terrace and Oak Park subdivisions have expressed concerns about the safety of driving along Hickory Street to enter their properties, and concerns about economic impacts arising from their proximity to the Superfund site. See Issues in Section VIII for further discussion.

Maintenance of the Soil Stockpile:

Question A: Is the remedy functioning as intended by the decision documents?

The Explanation of Significant Differences (ESD, i.e., amendment to the Record of Decision) was issued by EPA Region IV on April 30, 1998. The ESD required maintenance of the soil stockpile, to include any necessary repairs to the stockpile's

cover, the associated drainage ditches, and landscaping. Provision of maintenance for the cover was deemed necessary because it was anticipated that the stockpile would not be moved or exposed until all residential relocations were complete.

At this time, the cover for the stockpile is functioning as intended and provides an effective physical barrier preventing direct contact to the excavated, contaminated soils. The perimeter fence around the 26 acre ETC site is fully intact and provides an extra measure of protection to keep unauthorized personnel from entering the site and risking exposure to site-related contamination. The remedy prescribed in the ESD, maintenance, is being performed at a reasonable level. Under a contract issued by the US Army Corps of Engineers, Mobile District, the cover is routinely inspected, and any damage found is repaired as required. The periodic maintenance also addresses erosion control, vegetation control, security fencing, and warning signs. Minor deficiencies and long-term concerns for the cover are discussed in more detail in Section VIII, Issues.

Question B: Are the exposure assumptions, toxicity data, cleanup levels, and remedial action objectives (RAOs) used at the time of the remedy still valid?

Exposure assumptions, toxicity data, and cleanup levels were not presented in the ESD which established the maintenance remedy. The RAO was to maintain the soil stockpile and its cover system until a permanent remedy could be selected and implemented for the contaminated soil. This RAO remains unchanged.

Question C: Has any other information come to light that could call into question the protectiveness of the remedy? To date, the integrity of the soil's cover remains at satisfactory levels. However, the cover, a 60-mil thick high density polyethylene (HDPE) membrane, is showing signs of aging and weathering. At this time, the area of visible weathering covers an estimated 10-15 percent of the HDPE's exposed surface area. It is likely that the cover has several more years of productive life. However, as time passes, maintenance costs are expected to rise, and ultimately, failure of the membrane cover would be expected. Then, simple patching would be impossible, and repair by replacement of large sections of the cover would be required. See further discussion in Section VIII, Issues.

VIII. Issues

Issues will be discussed for both aspects of the remedy: relocation of families, and maintenance of the soil stockpile. When appropriate, recommendations are made in Section IX to address the issues.

Relocation of Families:

1. Businesses adjacent to the Oak Park subdivision at the northeast end of the site report that they are suffering economic damages as a result of their proximity to the Escambia Treating Company Superfund Site. Access to the businesses from Palafox

Street is along Hickory Street, where the vacant, fenced subdivisions of Rosewood Terrace, Oak Park, and the Escambia Arms Apartments line both sides of the street. The vacant residences, fenced lots, and warning signs present the appearance that it is not safe to enter the properties, and leads people to question their safety just driving down Hickory Street. At least two companies report that they had recently negotiated lucrative business sale and lease agreements. Subsequently, the potential buyers decided not to finalize the agreements, citing liability concerns for employee health and safety when working in such close proximity to the ETC Superfund site.

Representatives of these two businesses state that their combined losses from non-consummation of the agreements exceed \$6 million, and they are seeking assistance and relief in several ways. One business owner has sought a "comfort letter" from EPA Region IV which would provide written assurances that it is safe to drive down Hickory Street and that it is safe to work at their present business location adjacent to the ETC site and vacated housing. In a letter dated August 13, 2002 from EPA Region IV Administrator J. I. Palmer to Mr. George Touart, Escambia County Administrator, EPA assured that "citizens driving down Hickory Street or who work on properties near or adjacent to the site are not exposed to site chemicals that would pose a health concern."

The Escambia County government is seeking authorization and funding to accelerate demolition and site clearing of the vacated buildings along Hickory Street. The intent is to remove the illusion that the area is unsafe, and to demonstrate progress toward building the future commerce park. The county's possible action is complicated by several factors, including (1) properties north of Hickory Street are in the County, but buildings south of Hickory are under the City's jurisdiction; (2) EPA's funding and schedule to demolish the north properties is uncertain; (3) FDEP has not reached agreement with EPA regarding testing (with respect to handling and disposal) of potentially hazardous materials (e.g., dioxin levels in soil and asbestos in shingles).

2. Prior to EPA issuing the Proposed Plan, a number of local residents organized to form a group called Citizens Against Toxic Exposure, or CATE. Consistent with EPA regulations, CATE received a \$50,000 grant to support its efforts, and the group hired a technical advisor to independently review EPA studies and actions. The president of CATE has expressed her dissatisfaction with the relocation process citing problems such as low appraisals, replacement housing not being adequately inspected, and the fact that residents who moved early (because of health and safety concerns), prior to settlement with the government, were not eligible for the housing differential payment of up to \$22,500; overall, it is the CATE president's opinion that "EPA has shafted the community". Even though virtually all residents interested in moving have been relocated, CATE remains active in the ETC study and remedy selection process. CATE is currently circulating a petition which, in part, strongly urges EPA to "perform a complete and permanent detoxification or removal of onsite and offsite contamination..." (and restoration) "to residential standards..."

3. The February 1997 Record of Decision projected that the remedy, permanent relocation of residents and subsequent demolition of the vacated buildings, would take up to 3 years at a cost of roughly \$23,577,000. Nearly five and one-half years have passed since the signing of the ROD, and several more months will pass before clear title is obtained for all properties, which would clear the way for full demolition (those properties with clear title could legally be demolished now). In part, the extended time line might be attributed to the expectation that all residents wanted to move, and that expectation has proved to be untrue. To date, the cost to purchase residential properties (including the Escambia Arms Apartments), locate alternate properties, and provide related benefits has reached \$17.92 million. Additional funds have been spent to board up vacant buildings, fence off vacated properties, remove abandoned appliances and propane tanks, maintain the grounds in a safe and respectable condition and for administrative expenses; part of this expense will continue to accrue until demolition is initiated. The total housing-related project costs to date stand at \$20.26 million. After the demolition costs are incurred, it is expected that the final project cost will be in the range of \$21 to \$22 million, roughly 10 percent below the original estimate.

Maintenance of the Soil Stockpile:

1. The plastic membrane cover (60 mil HDPE) over the soil stockpile is exposed to direct sunlight and is showing signs of weathering and aging. In several locations, especially on the north- and west-facing panels of the cover, the normally smooth and shiny surface of the HDPE has become a dull black color which can be rubbed off, much like soot. The HDPE membrane is normally flexible, but in the areas of discoloration it is showing signs of embrittlement. Presently, the noticeably weathered area is estimated to be 10-15 percent of the HDPE's exposed surface area. With continued exposure, the HDPE is expected to become more brittle and the affected areas will continue to grow. The brittle areas will be more prone to failure, and repair will require the removal back to a point where a uniform patch could be bonded to healthy HDPE.

For this review, attempts were made to estimate the remaining service life of the HDPE cover. The question was posed to Solmax Geosynthetics, Inc., and to others experienced in HDPE membrane applications, but the results were inconclusive. The extent of deterioration varies across the site, and that pattern is expected to continue based on variations in solar ultraviolet exposure. Some areas will continue to age faster than others, and some areas will require repair sooner than others. Routine inspections of the cover should continue, and should look for areas where brittle HDPE has opened into cracks which will require repairs.

2. During installation of the HDPE cover, a series of concrete weights were placed on the cover at 20-yard intervals near mid-slope. Over time, the ropes used to support the weights have failed, and the weights have slipped to the toe of the slope but no

damage has been caused to the cover material. It has been suggested that the weights were intended to secure the cover during installation only, and that they were not intended to provide a level of long-term protection against uplift during wind loadings in a storm, but that information has not been confirmed.

3. Along the north face of the soil stockpile, there is a gradual ramp which permits vehicle access to the top of the stockpile. By nature, the HDPE membrane will expand and pucker, which itself is not a problem. However, tire tracks appear on the HDPE, and at numerous locations it was observed that membrane was folded and creased under the vehicle's weight. To date, the creased HDPE has not failed, but additional vehicular traffic coupled with weathering and embrittlement will eventually cause the creases to open. Since rain water will pond in the puckered membrane, vehicular traffic on the cap should be allowed only when necessary for essential maintenance and repairs, and not allowed as a convenience during inspections.

4. During the site visit, approximately 400 55-gallon drums were observed in a staging area in the southwest portion of the site. Approximately half of the drums were relatively new (gray paint finish is intact), while the other drums were older and were in various stages of deterioration. All of the drums were enclosed with a metal cover and a bolted retainer ring, but with few exceptions, the drums were not labeled to indicate the contents or date of accumulation. A few of the drums were observed to have rusted through, and others sat awkwardly on collapsed wooden pallets. On a restoration site such as ETC, drums like this are frequently used to contain investigative derived wastes (IDW) such as well purge and development water, soil cuttings from well borings, and used personal protective equipment from on-site workers. Based on the limited labeling and the weight of the drums, it is believed that the drums do contain IDW, and the intent is that the drum contents would be processed in the same time and manner as the soil stockpile.

IX. Recommendations and Follow-up Actions

See Table of Recommendations and Follow-up Actions at the end of this report.

X. Protectiveness Statement

The primary Interim Remedial Action established by the ROD, the permanent relocation of nearby residents, is essentially complete for those residential neighborhoods identified in the Record of Decision. FDEP has raised the question of whether all residential properties with elevated levels of site-related contamination were identified in the ROD, and this issue is pending resolution between EPA and FDEP. The secondary measures established by the ROD, demolition of the residential buildings and prohibition of future residential use on the land have not yet been accomplished, but must be accomplished to assure long term protectiveness.

The interim action established in the Explanation of Significant Differences is currently being protective by maintaining the cover and security fencing as effective barriers to contact with the contaminated soil. This cover was never intended to provide long-term protectiveness, which will only be realized when a permanent remedy for the contaminated soil is selected and implemented.

XI. Next Review

The next review for the interim remedial actions established in the Record of Decision dated February 12, 1997 and in the Explanation of Significant Differences dated April 30, 1998 will be required in September 2007, five years from the date of this report.

Tables

Chronology of Site Events
Escambia Treating Company
Superfund Site

Event	Date
Escambia Treating Co. (ETC) Begins Operations	1942
ETC begins use of pentachlorophenol (PCP)	1963
ETC begins exclusive use of PCP	1970
ETC files RCRA Part A permit application	November 18, 1980
ETC ceases operations	Oct-82
EPA conducts sampling	4-82, 4-91, 6-91, 5-92
ETC requests waiver of 30-Yr post-closure requirements	May-85
Escambia Treating removes 168 c.y. of sludge from 3 impoundments (i.a.w. T.O.P.)	Sep-85
ETC submits revised Closure Plan i.a.w. 30-Yr requirements	Oct-85
ETC and FDEP sign Consent Order	December 31, 1985
FDER id's backfilled impoundment as unpermitted disposal area	1986
ETC objects to permit terms arising from Consent Order signed with FDEP	Feb-87
Agrico Chemical notifies EPA and State of PCP found in monitoring well	Apr-87
FDER conducts sampling	Sep-87
ETC removes contaminated wood sidewalls from 2 small impoundments	1988
RCRA Facility Assessment conducted	1990
ETC Files Bankruptcy, Abandons site	1991
EPA begins removal of all materials of concern	Oct-91
EPA completes Removal Action (Excavation of est'd. 225,000 c.y. completed)	Oct-92
EPA Action Memos	4-91, 1-92, 5-92
EPA proposes site for NPL	August 23, 1994
NPL listing is finalized	December 16, 1994
ATSDR draft Public Health Assessment	November 2, 1994
EPA nominates ETC site for National Relocation Evaluation Pilot	June 95
EPA samples residential soils	July 95
EPA Issues Proposed Plan to Relocate 66 Families in Rosewood Terrace	Apr 96
Addendum to Proposed Plan adds 35 homes from Oak Park to relocation list	Aug 96
EPA issues Interim Record of Decision	February 12, 1997
First offer letters sent to home owners	August 30, 1997
Revised Draft RI	February 9, 1998
EPA issues Explanation of Significant Differences to the ROD	April 30, 1998
EPA Draft PP on OU1	2001
FDEP Comments on Draft PP for OU1	August 29, 2001

Table 1

Recommendations and Follow-up Actions
Escambia Treating Company
Superfund Site

Open Item or Issue	Follow-up Action or Recommendation	Responsible Party	Oversight Agency	Milestone Date	Affects Protectiveness	
					Current	Future
Demolish Buildings (req'd by ROD)	Demolish All Buildings	EPA	EPA, FDEP	6/30/03	No	Yes
Prohibit Residential Reuse (req'd by ROD)	Establish Zoning Restrictions & LUCs (allow Commercial / Industrial Reuse Only)	County and City	EPA, FDEP	Due at time of property transfer from EPA	No	Yes
Weathering of Stockpile's Cover	Continue to Monitor, Repair as Required	EPA	EPA, FDEP	N/A	No	Yes
Use of Weights on Stockpile's Cover	Engineering Evaluation of need; replace if required, otherwise remove	EPA	EPA, FDEP	12/1/02	No	Maybe
Vehicle Traffic on Stockpile's cover	Restrict to essential use only	EPA	EPA, FDEP	10/1/02	No	Yes
Storage of Drums	Inspect, repack as needed	EPA	EPA, FDEP	12/1/02	Yes	Yes
Public Interest in Permanent Remedy Selection	Issue updated Fact Sheet	EPA	EPA, FDEP	12/1/02	No	No

Table 2

Responsiveness Summary

Responsiveness Summary

The following comments on the draft of this report were received from the public and the Florida Department of Environment. The original comments are reprinted in italics, followed by the response in normal print font.

Reviewer: Ms. Wilma Subra, on behalf of CATE, submitted by e-mail to Mr. Stan Kinmonth, Project Manager, on August 29, 2002.

Comment (1). On behalf of Citizens Against Toxic Exposure (CATE) I would like to submit the following comments relative to the Draft Five Year Review Report. The five year review is for the Interim Remedial Action of Relocation which was signed in February 1997. This is the first five year review for the Escambia Site. A five year review should have been performed on the EPA Removal Action performed between October 1991 and October 1992. The Removal Action consisted of excavation of contaminated soils, stockpile on site and placement of a cover over the stockpile. Because the removal action resulted in contaminated soils remaining on site and a cover placed over the contaminated soil, the effectiveness of the remedy should have been reviewed every five years.

Response (1). The requirement to perform a Five-Year Review is established in CERCLA Section 121 (c) for Remedial Actions. The definitions in CERCLA Section 101 distinguish between a (temporary) Removal, vs. a Remedy or Remedial Action which provides a permanent remedy. The excavation and stockpiling of contaminated soil in 1991-1992 were a (temporary) Removal Action performed under emergency response authority. Based on the nature of an emergency response, Removal Actions are not subject to the advance planning criteria of a Proposed Plan, public review and comment, and documentation of the selected plan in a Record of Decision. It was not Congressional intent that a Removal Action such as the 1991-1992 excavation would be subject to the Five-Year Review requirement, and lacking a ROD, a Five-Year Review consistent with the guidance documents could not be performed on a Removal Action.

Comment (2). Under the section Status of Final Remedies the first statement indicates "In March 2001, EPA presented the first draft Proposed Plan for the OU1 Final Remedy to the Florida Department of Environmental Protection (FDEP); the agencies are currently working to resolve several key issues." The report should list and discuss the substance of the key issues. Resolutions have been submitted by Escambia County, City of Pensacola and CATE and a number of additional environmental groups relative to the proposed plan for OU1. These resolutions should have been listed and the issues discussed in the Status of Final Remedies.

Response (2). As emphasized in the Introduction to the report, the purpose of the review is to evaluate the protectiveness of the Interim Remedial Action, i.e., relocation of families. Under the guidance for Five-Year Reviews, a section such as Status of Final Remedies would not normally be provided, since this review is intended to address the Interim Remedial Action. However, it is understandable that the public has an interest in the permanent remedy, and the Status section was provided to address that interest. In response to your comment, the text has been expanded to briefly address the unresolved issues of the draft Proposed Plan, namely the dioxin cleanup levels prescribed by FDEP are more stringent than those used by EPA, and FDEP is seeking further investigation to determine whether site-related contaminants are dispersed further than identified during the RI/FS. Ideally, EPA and FDEP will reach agreement on the above issues before a Proposed Plan is released for public review and comment. Finally, this report will recommend that EPA issue an updated Fact Sheet to advise the community of the progress toward selection of a permanent remedy.

Comment (3). Page 3 last sentence under Physical Characteristics should reference whether the RI/FS is for OU1 or OU2.

Response (3). The referenced RI/FS is for OU1, contaminated soil.

Comment (4). The Regulatory History and Initial Response section states in the third paragraph that by October 1992, 225,000 cubic yards of soil had been excavated. The correct figure is 255,000.

Response (4). At least four different figures for the volume of excavated soil have been reported, ranging from 220,000 to 255,000 cubic yards. The soil stockpile has never been surveyed to provide an accurate volume. As such, the reported total values are all estimates based on daily production reports during the excavation, the daily reports also being estimated. In reality, the exact figure probably is somewhere between the two figures stated here.

Comment (5). The Corps of Engineers failed to interview the people most directly involved in the Interim Remedial Action that is the topic of the five Year review, the relocated residents. Approximately 358 households were Relocated under the Interim Remedial Action. Only one relocated person, Ms. Margaret Williams president of CATE, was interviewed. On page 12 of the Draft Five Year Review the dissatisfaction with the relocation process expressed by Ms. Williams was included in the discussion. Based on the information provided by Ms. Williams, additional relocated individuals should have been interviewed to identify the extent of discontent with the remedy. This is an extremely important aspect of the five year review and should be developed further through additional interviews with relocated individuals.

Response (5). As stated, the President of CATE was interviewed since she would be knowledgeable of the citizens' concerns and qualified to speak on their behalf.

The draft report went so far as to register her (and community) dissatisfaction with the relocation process, even though the purpose of the Five-Year Review is to assess the protectiveness of the remedy. We disagree with your suggestion that additional relocated individuals should be interviewed to identify the extent of discontent with the remedy. EPA Headquarters is independently evaluating the pilot program under which the relocations were performed. It is neither the intent nor the purpose of the Five-Year Review to duplicate the evaluation being performed by EPA Headquarters.

Comment (6). The Corps held a meeting on July 29, 2002 to discuss current status and site conditions. CATE and its technical advisor were not invited to participate in the meeting.

Response (6). During the telephone interview, Mrs. Williams was advised that a site visit was planned for July 29. Mrs. Williams offered to show the reviewer around the site, and that offer was declined as not necessary. The primary purpose for the site visit and the prior meeting was to familiarize the reviewer with site conditions and issues, in particular those related to the soil stockpile.

Comment (7). Under the section Relocation of Families paragraph 2, the Corps states "EPA has determined that it is not essential for those residents to be relocated for health and safety reasons." What is the basis for such a statement? A document should be referenced that provides sufficient information to justify EPA making such a determination. Under the fourth paragraph of the response to Question A, the Corps states the interim remedy is successful and is functioning as intended in the ROD. How can the Corps make such a statement when they did not interview the relocated individuals other than Ms. Williams?

Response (7). The basis for the statement is the April 1996 Proposed Plan which identified that only 22 families in the Rosewood Terrace complex were proposed for relocation because of contamination on their properties. The remainder of Rosewood Terrace was proposed for relocation as an extra measure of protection and to provide a safety buffer around the proposed work area. Once the proposed plan evolved into the final, selected plan and was documented in the ROD, EPA acknowledged in section 9.0 of the ROD that the residents of all four neighborhoods would be relocated based on the cumulative impacts of eight stated factors, not because of any single factor such as excessive health risks arising from contaminated properties (emphasis is that of the ROD, not the reviewer).

Response (7), (continued). In the response to Question A, the Corps stated that the interim remedy is successful and functioning as intended in the ROD. It is true that the selected remedy, permanent relocation, has moved the affected families from close proximity to the site-related contaminants. The potential exposure pathway has been eliminated, assuring protection of health and safety for those families and neighborhoods identified in the ROD. During review of the draft of this report, FDEP

identified that two samples collected in the area of Clarinda Lane show elevated dioxin levels when compared to State standards (but not to EPA standards). Because of this, FDEP feels that the selected remedy has been completed for those residential areas identified in the ROD, but stops short of calling it successful because all families exposed to elevated contaminant levels may not have been identified in the ROD. At this time, it is not clear that the dioxin found is related to the ETC site, and the limited sampling cannot accurately represent the overall extent of contamination. As stated above, FDEP wants EPA to conduct further sampling to assure that all off-site contamination is known and addressed. In order to reach agreement on a Proposed Plan for a final soil-contamination remedy, FDEP will continue to work with EPA to resolve the need for further sampling and the dioxin cleanup levels that would apply.

Comment (8). On page 11 in the response to Question C it is stated that the failure of the membrane cover would be expected. The time frame for membrane failure should have been included in the five year review report. The integrity of the liner is important to the membrane of the contaminated soil stockpile.

Response (8). At the time the draft was circulated for review, information was still being sought on the life expectancy of the HDPE membrane. Unfortunately, that information was not conclusive. The level of deterioration varies widely at different places on the cover, based in part on the amount of ultra-violet exposure at any point. Different areas of the cover will age and deteriorate at different rates. Destructive testing of samples removed from deteriorated areas of the cover could offer some insight into the remaining service, but it would be difficult to correlate those findings to the widely varying site conditions. It can be reasonably assumed that three or more additional years of service are possible without the need for extensive repairs. For now, the recommendation is to continue to monitor the HDPE membrane, repair as required, and work toward a permanent remedy for the contaminated soil stockpile.

Comment (9). Information is missing at three places in the draft: Dollar value on page 12, comparison of actual to estimated maintenance costs on page 13 and information from the manufacturer on the plastic membrane cover page 13. This information is important to include in the draft in order for the report to be complete.

Response (9). Additional information on the cost of relocations has been received and is discussed. Further information on the HDPE cover has been added as discussed in Response (8).

Comment (10). On page 14 table under Section IX Recommendations and Follow-up Actions items four, five and six list soil cover. The items should list plastic membrane cover instead of soil cover. These include weathering of soil cover, use of weights on soil cover and vehicle traffic on soil cover.

Change soil to plastic membrane cover.

Response (10). Confusion on use of the term soil cover was unintended. At various points in the report, the wording has been clarified as "the HDPE cover", "the soil's cover", "cover over the soil stockpile", "HDPE membrane", etc.

Comment (11). On the table under Section IX Recommendations and Follow-up Actions, a section on interviewing additional relocated individuals.

Response (11). Disagree. As discussed earlier, the purpose of the Five-Year Review is to assess whether the remedy is being protective of human health, not to document the dissatisfaction of those personnel who were relocated at the expense of the federal government.

Comment (12). On page 14 line 7 the in between contain and IDW should be removed.

Response (12). Agree

Comment (13). Page 15 Section X states that the permanent relocation is successful. However the text of the report indicates otherwise. Section X should accurately reflect the situation described in the text.

Response (13). As discussed above, use of the term "successful" has been removed and further clarification added.

Comment (14). The table after page 15 presents Events and Dates. The October 92 event presents the excavation of 225,000 c.y. completed. The actual quantity was 255,000 cu. yd. The 2001 event of EPA Draft PP on OU1 should indicate that the Draft PP was only officially issued to the Florida DEP.

Response (14). As discussed earlier, the stated volume of excavated soil is only an estimate. On the second point, It is normal for EPA to work with State's regulatory counterpart to try and reach agreement on a draft Proposed Plan. Once the regulatory agencies have reached agreement, a Proposed Plan would be released for public review and comment, but it is just that, proposed, until public participation has been factored in; at that point, selection of a final remedy would be documented in the Record of Decision. No change to the wording is needed.

The following comments on the draft of this report were received from FDEP.

Reviewer: Ms. Leona Miles, FDEP's Remedial Project Manager for the ETC site. The comments were submitted to USACE by e-mail August 26, 2002.

Comment (15). Page 9, Question A&C: Additional soil data indicate that there may be other residential areas still occupied that exceed safe levels of dioxin, i.e.: Clarinda Lane. Offsite delineation of the extent of dioxin has not been completed and therefore it can not be stated (in the absence of specific results) that the Interim Remedy to permanently relocate residents has been successful. Potential exposures to residents remaining along Palafox may be ongoing. The original relocation plan has been satisfactorily completed; however, it appears to have been incomplete for all actual residential exposures.

Response (15). Agree with your statement regarding the term "successful". The text of the report has been revised and clarified as discussed in Responses (7) and (13), above.

Comment (16). Pages 11&12: Does EPA have specific data to conclude that employees working on properties accessible via Hickory Lane are not exposed to Escambia chemical concentrations exceeding a one in a million health cancer risk? Have these business properties been sampled? Has the soil and sediments of the stormwater pond installed at the intersection of Landsdowne and Talisman ever been sampled for the site contaminants?

Response (16). The data to support a conclusion that employees working along Hickory Lane are safe from ETC site-related contaminants is that used in the April 1996 Proposed Plan. The Plan indicated that only 22 residences in the south and west portions of Rosewood Terrace were proposed for relocation because of direct exposure potential on their properties. Since those residential properties adjacent to the businesses (but closer to the ETC site) were found to be safe for residential use, by extension, the more distant business properties would be safe in a commercial or industrial exposure scenario.

Response (16) (continued). With respect to the stormwater retention pond near Landsdowne and Talisman Streets, both the Engineering Department for the City of Pensacola and the Escambia County Roads Department were contacted, and both reported that the pond was not in their area of responsibility (one of them is probably wrong). Recognizing the close proximity of this pond to the highly contaminated area of excavation in the northeast corner of the ETC site, but not knowing the age and history of the pond itself, it would be prudent for FDEP include the sampling of the pond sediments in discussions with EPA regarding further off-site sampling.

Photographs



Escambia Treatment site as seen from N. Palafox Street. Soil stockpile is shown behind security fence and warning signs.



Sheet metal security fence separates ETC site from Rosewood Terrace housing to the north; also representative of east and south perimeter fence.



View from Palafox St. looking east along Hickory St. Architectural Specialties Trading Co. is seen at the end of Hickory St.



Security fence prevents access from Hickory St. to the vacant Rosewood Terrace housing area.



Housing in the Oak Park subdivision along the north side of Hickory St.



Escambia Arms Apartments as seen from Hickory Street.



Escambia Arms Apartments.



Escambia Arms Apartments.



Housing along Pearl Street in the Goulding subdivision.



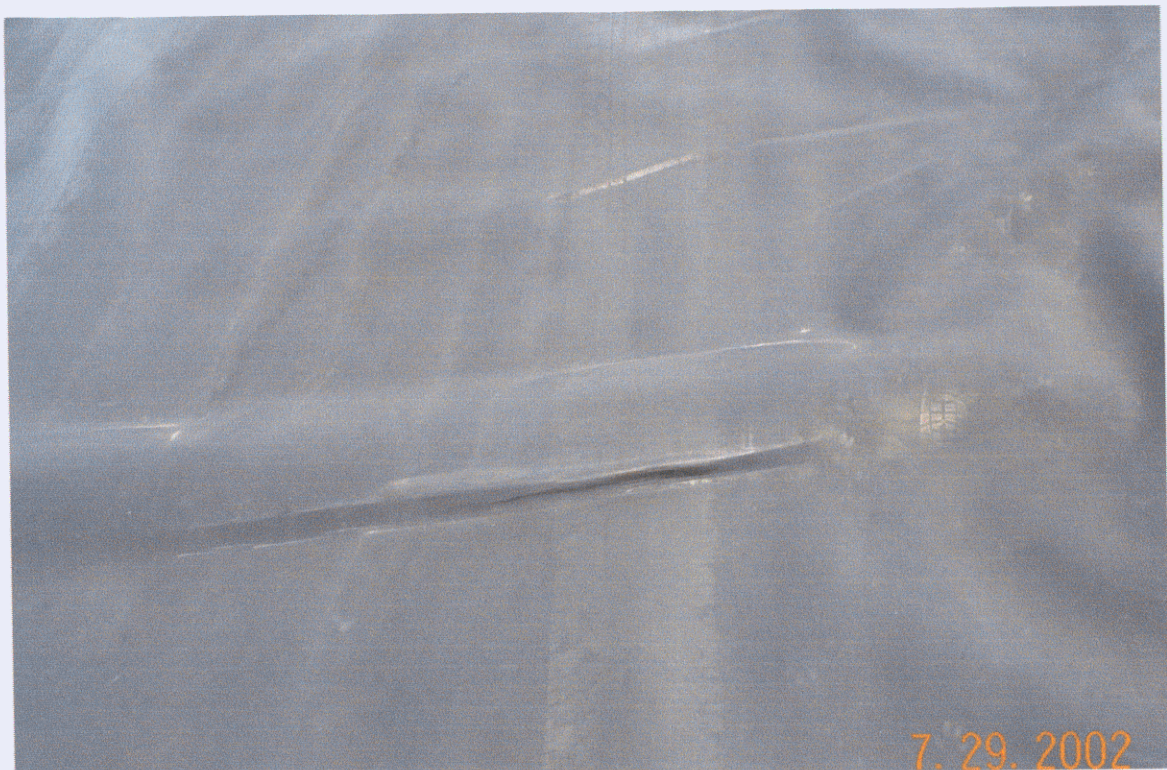
Housing along Herman Street in the Goulding subdivision.



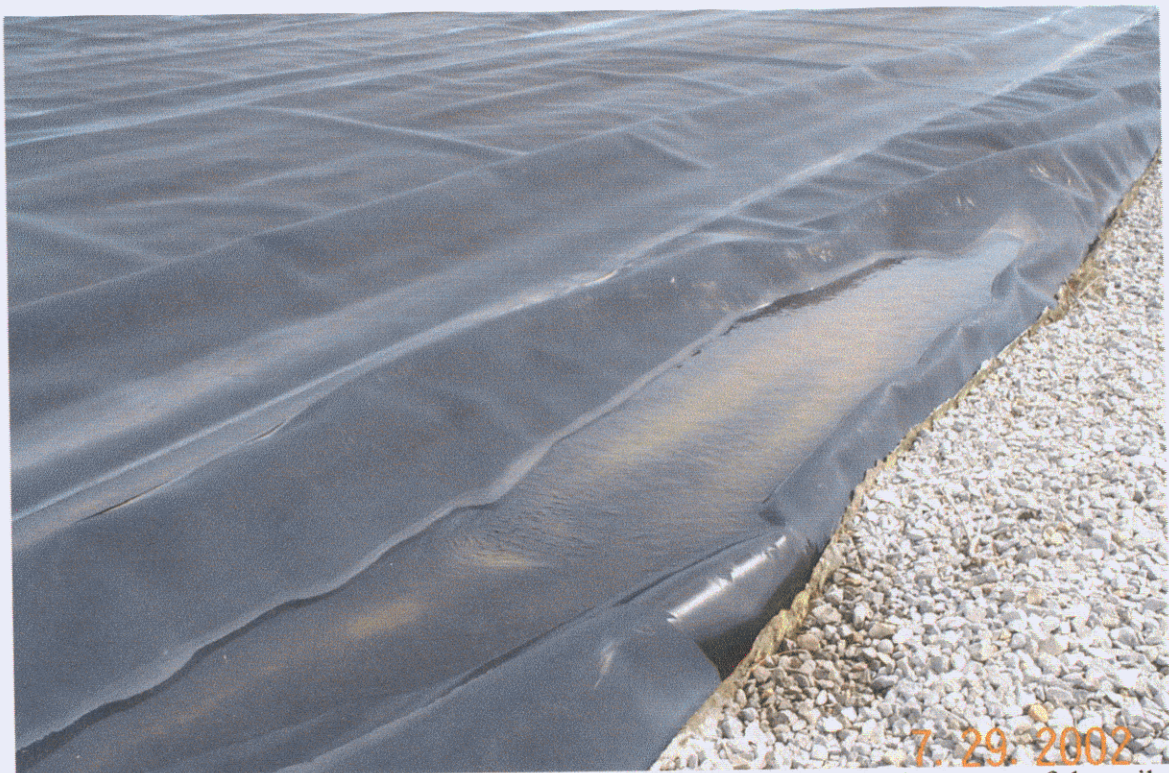
East side of the soil stockpile. Anchor trench at foot of slope controls drainage; fallen concrete weight and patches on the HDPE cover are also visible.



Vehicle access to top from north side of soil stockpile.



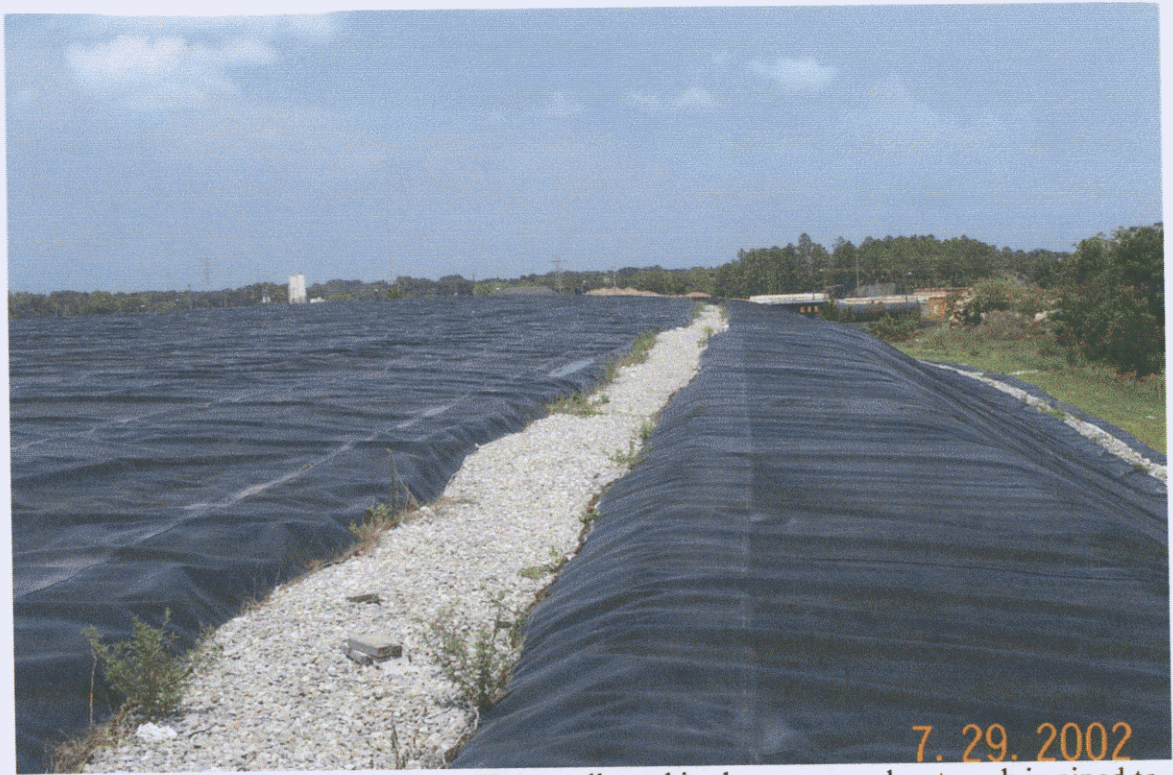
Vehicles driving over folds in the HDPE cover are causing creases in the cover.



Water standing in folds of the HDPE cover. Perimeter drainage for the crown of the soil stockpile is also shown.



Discoloration of HDPE along the north slope caused by weathering. HDPE in such locations is becoming brittle.



Top of soil stockpile looking east. Water collected in the upper anchor trench is piped to the lower trench before discharge to the on-site excavations.



NE excavation area from 1991-92 emergency response. Steel retaining wall and the north perimeter fence are shown.



Excavation of the process area is adjacent to the north-west slope of the stockpile. Original mid-slope locations of the concrete weights are visible.



Drums of investigative-derived waste sitting on pallets in SW corner of the site.



Drums are beginning to rust after continuous exposure.